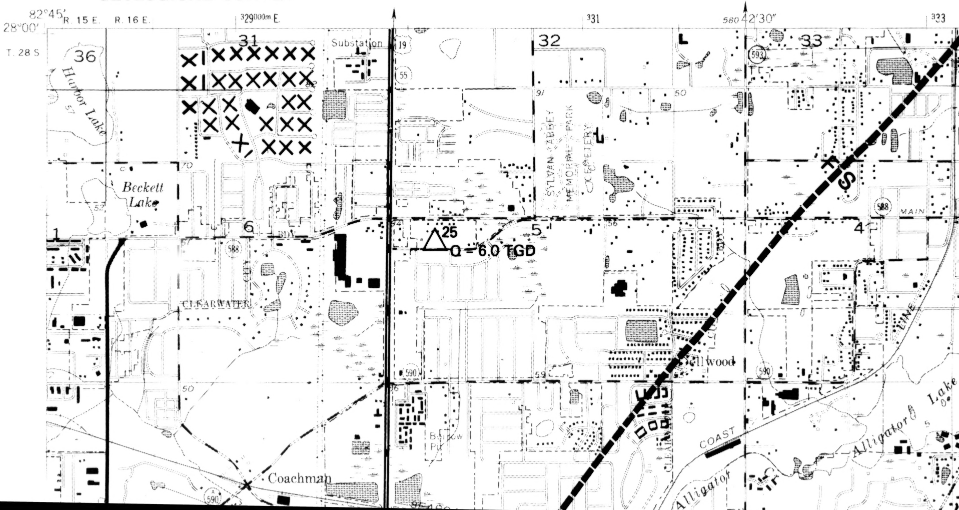
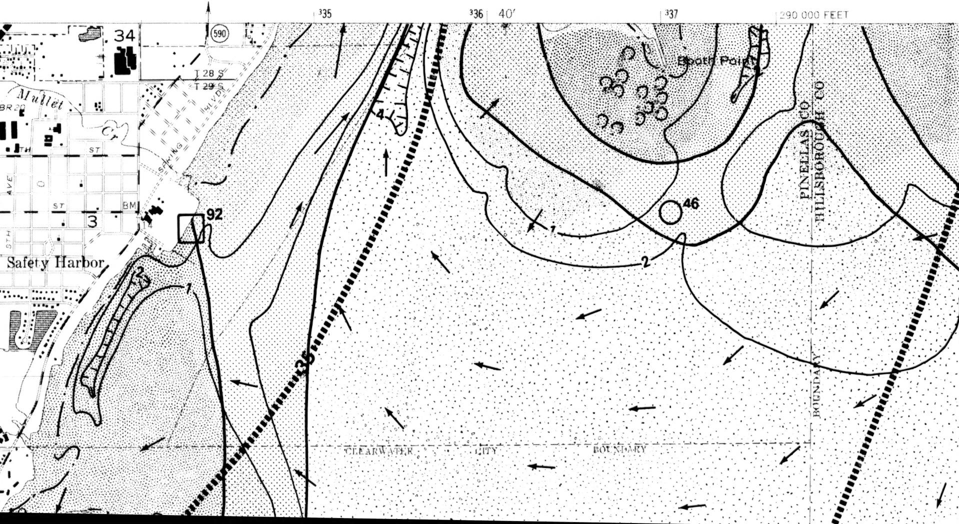
I 49.89/2:85(15) map B5

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY


82°45′
28°00′
R. 15 E.
R. 16 E.
329000m E.
331
560
42′30″
333
T. 28 S
36
31
32
33
Harbor Lake
Substation
19
55
593
91
50
SYLVAN ABBEY MEMORIAL PARK CEMETERY
70
Beckett Lake
52
6
5
4
1
57
588
BDY
25
Q = 6.0 TGD
MAIN
CLEARWATER
LINE
590
59
Ellwood
50
Borrow Pit
COAST
Alligator Lake
Alligator
Coachman
590
CSX

SAF

7.5 M

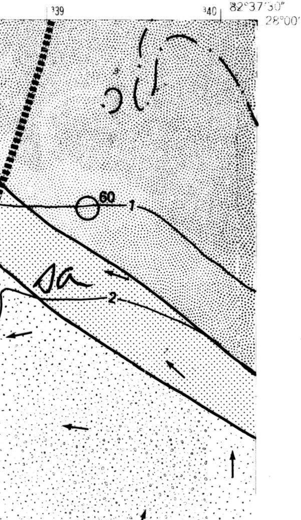

335
336
40′
337
290 000 FEET
34
590
T 28 S
T 29 S
Mullet
Cr
BR 20
TH
ST
SPRING
BLVD
AVE
ST
BM
3
92
Safety Harbor
2
1
4
35
Booth Point
46
1
2
PINELLAS CO
HILLSBOROUGH CO
BOUNDARY
CLEARWATER CITY BOUNDARY

[illegible] 19 '86

I 49.89/2:85(15) map B5

ORIGINAL

ETY HARBOR QUADRANGLE
FLORIDA
MINUTE SERIES (TOPOGRAPHIC)

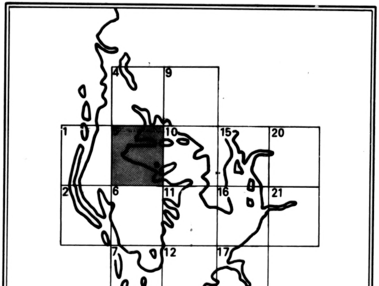

339
340
82°37'30"
28°00'
60
1
2
Sa

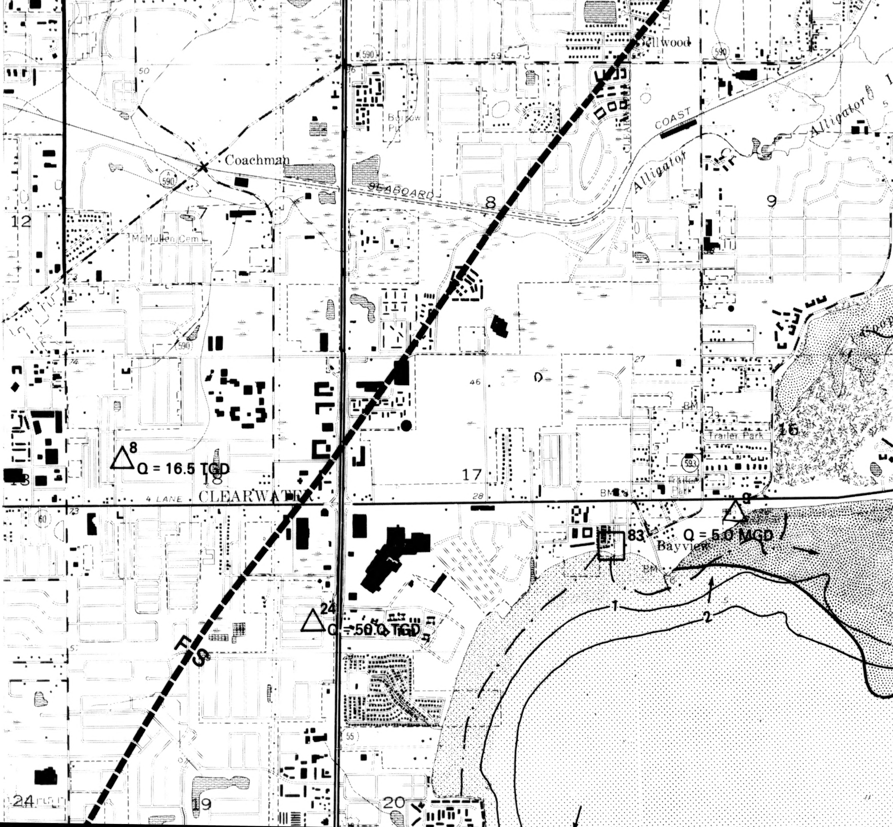
MAP B5

TAMPA BAY ENVIRONMENTAL ATLAS

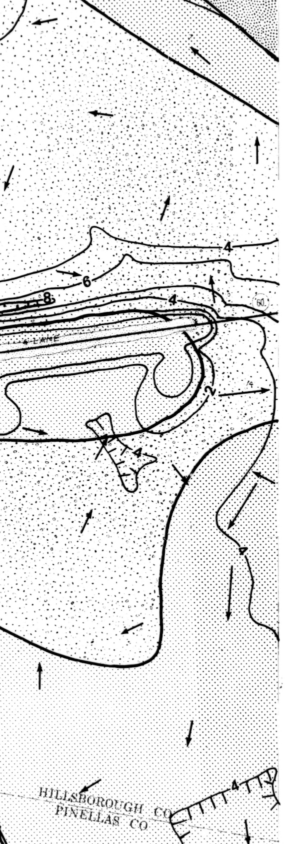
WATER RESOURCES

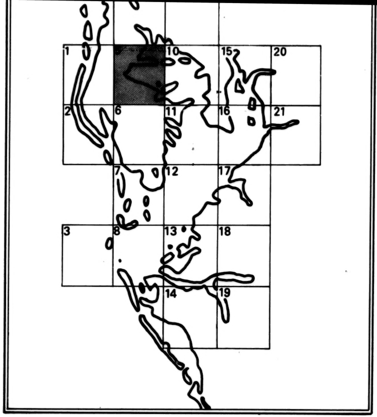
SAFETY HARBOR


4
9
1
10
15
20
2
6
11
16
21
7
12
17


Bellwood
590
59
50
Borrow Pit
COAST
Alligator Cr
Alligator
Coachman
590
SEABOARD
8
9
12
7
McMullen Cem
13
590
74
46
27
29
Trailer Park
16
BM
593
Trailer Park
8
Q = 16.5 TGD
18
17
4 LANE
CLEARWATER
28
60
73
8
Q = 5.0 MGD
83
Bayview
BM
1
2
24
Q = 50.0 TGD
60
55
24
19
20

35
36
64
65
CLEARWATER CITY BOUNDARY
BOUNDARY
BDY
CLEARWATER
TAMPA
BOUNDARY
INDEPENDENCE
Cooper Point
Lake
Bayou
10
15
60
COURTNEY CAMPBELL PARKWAY
1
2
4
6
2
2
2
4
4
1
2
1
6
4
1
2


4
6
8
4
60
4 LANE
2
4
4
HILLSBOROUGH CO
PINELLAS CO


1
10
15
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16
21
7
12
17
3
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13
18
14
19

Scale 1:24,000

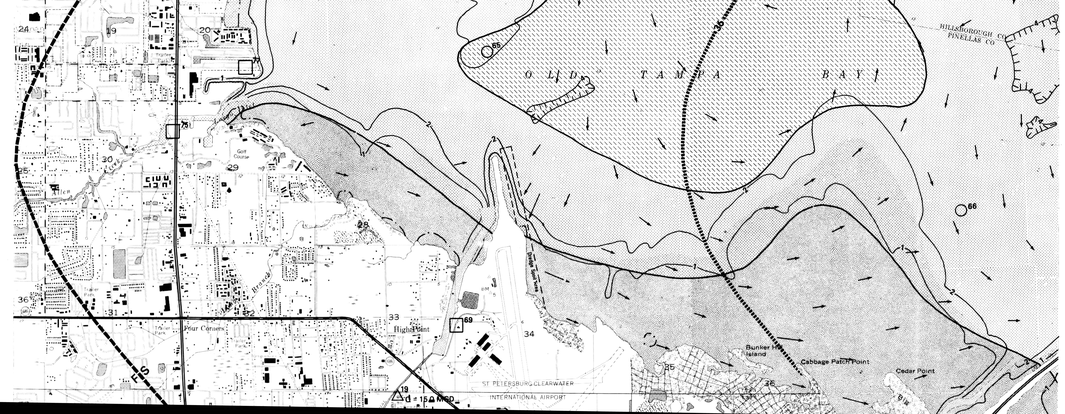
U.S. DEPARTMENT OF THE INTERIOR
MARCH 3, 1849

1984

TOPICAL MAPS IN THIS ATLAS:
A. BIOLOGICAL RESOURCES
B. WATER RESOURCES

Produced by U.S. Fish and Wildlife Service
Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

Overlay material compiled in 1984 from latest available data obtained from Federal, State and Local government



Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

Overlap material compiled in 1984 from latest available data obtained from Federal, State and Local government agencies and other sources.

There is no map A19 due to a lack of data.

LEGEND

35 MEAN ANNUAL MID-DEPTH SPECIFIC CONDUCTIVITY ISOPLETH (WATER QUALITY) CONTOUR MAP
Five year mean annual specific conductivity September 1978 - August 1983 (mohos)

POINT SOURCE DISCHARGES *

10 Q=___ Industrial Point Source Discharge. Q is permitted capacity in total gallons per day (tgd) or in millions of gallons per day (mgd).

10 Q=___ Municipal Point Source Discharge. Q is permitted capacity in total gallons per day (tgd) or in millions of gallons per day (mgd).

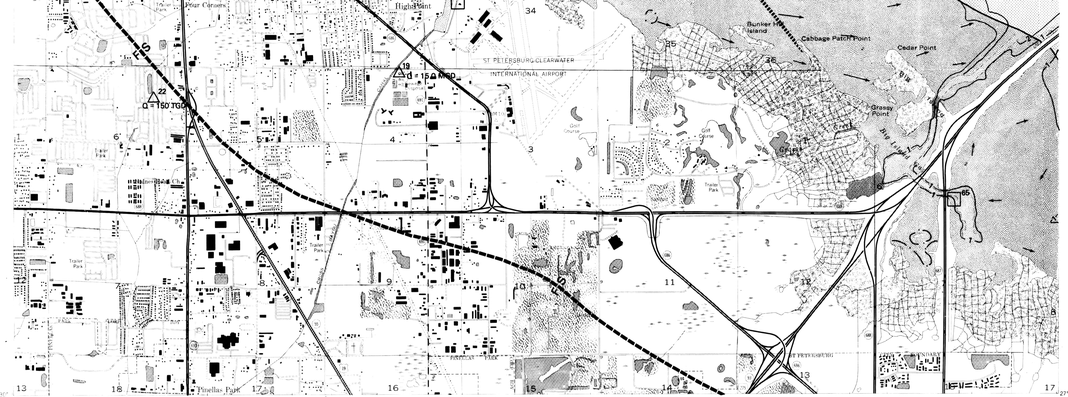
DREDGE SPOIL DISPOSAL SITES

TIDE STATION *
(National Ocean Service)

10 Active tide station. The tide station number is listed next to the symbol.

10 Inactive tide station location. The tide station number is listed next to the symbol.

10 WATER QUALITY SAMPLING STATION *
(Hillsborough County Environmental



TIDE STATION
(National Ocean Service)

10 Active tide station. The tide station number is listed next to the symbol.

10 Inactive tide station location. The tide station number is listed next to the symbol.

10 WATER QUALITY SAMPLING STATION *
(Hillsborough County Environmental Protection Commission)
Five year seasonal means, Sept. 1978 - Aug. 1983

2 BATHYMETRY
The contour interval is 2.0 meters with an initial 1.0 meter supplemental contour line added to better define shoals and inshore tidal flats.

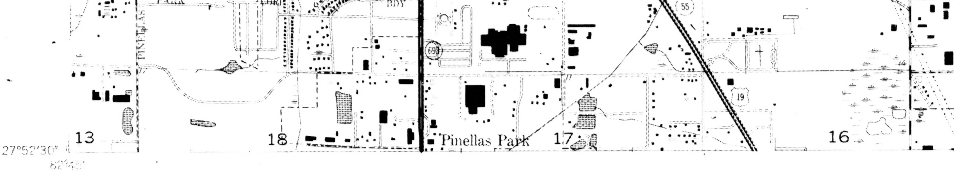
INTERTIDAL ZONE
This zone demarcates the area exposed and flooded by the tides and occurs between the line and the shore.

GENERALIZED SEDIMENT MAP
- Sand
- Shelly Sand
- Silty Sand
- Clayey Sand
- Sandy Clay
- Silt

NET TIDAL CURRENT
Resultant tidal current. The direction is indicated by the arrow and the discharge range is feet per second
- 0.01 - 0.10 ft/sec
- 0.11 - 0.20 ft/sec
- 0.21 - 0.30 ft/sec
- 0.31 - 0.50 ft/sec
- >0.50 ft/sec

F FRESHWATER/SALTWATER INTERFACE
(U.S. Geological Survey 1979)

MICROCOPY RESOLUTION TEST CH
NBS - 1010a
(ANSI and ISO TEST CHART No
1.0



THE TAMPA BAY ENVIRONMENTAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES NATIONAL COASTAL ECOSYSTEMS TEAM (FWS/OBS) FOR COASTAL PLANNERS, DECISION MAKERS AND THE GENERAL PUBLIC, TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS, AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES A MAJOR PORTION OF THE COASTAL COUNTIES OF PINELLAS, HILLSBOROUGH, MANATEE, AND A SMALL PORTION OF SARASOTA. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

THIS MAP HAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS INCLUDING MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES CONTAINED GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED FEATURES, THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE MEASUREMENTS OF DISTANCES OR AREAS.

PRIMARY SOURCES OF MAPPED INFORMATION

SALINITY: Conductivity for Tampa Bay water quality sampling stations Sept. 1978 - August 1983. Hillsborough County Environmental Protection Commission.

POINT SOURCE DISCHARGES: Computer printout of industrial and municipal point source discharges in West Central Florida. Florida Dept. of Environmental Regulation, 1983.

DREDGE SPOIL DISPOSAL AREAS: Dredge and Spoil easement location maps. Florida Dept. of Natural Resources.

N.O.S. TIDE STATIONS: Index of tide stations for the state of Florida. National Ocean Service, Rockville, Md. 1981.

WATER QUALITY: Total chlorophyll, conductivity, turbidity, temperature and total nitrogen data for Tampa Bay water quality stations, Sept. 1978 - August 1983. Hillsborough County Environmental Protection Commission.

BATHYMETRIC: Bathymetric map to St. Petersburg Quadrangle, N.O.S. 1978.

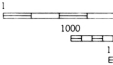
INTERTIDAL ZONE: Nautical Chart #'s 11410, 11413, 11414 and 11425. N.O.S., Rockville, Md. 1983.

SEDIMENTS: Sediments, oceanographic observations and Floristic data for Tampa Bay, Florida and adjacent waters, 1961-1965, Taylor and Saloman, 1969.

TIDAL CURRENTS: Changes in tidal flow, circulation and flushing caused by dredge and fill in Tampa Bay, Florida. U.S. Geological Survey Open File Report #84-447. Goodwin, 1984.

FRESHWATER-SALTWATER INTERFACE: Position of the Freshwater-Saltwater interface in the upper part of the Floridan aquifer, Southwest Florida, 1979. U.S.G.S. water resources open-file report 82-90. Causseaux and Fretwell, 1982.

FOR COMPLETE REFERENCE SEE MAP NARRATIVE



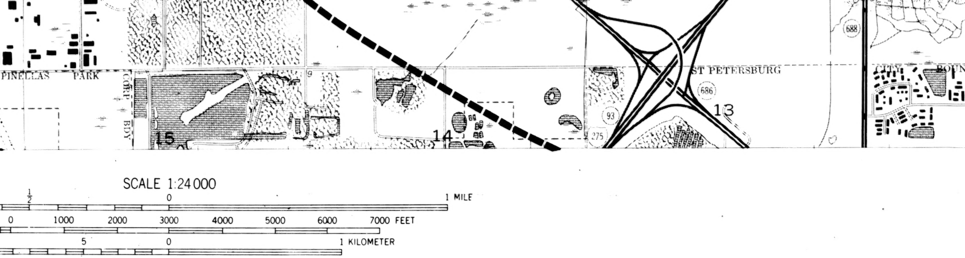
Supplementa

Station #65

PARAMETER
Total Chlorophyll (ug/l)
Conductivity (mmhos)
Turbidity (NTU'S)
Temperature (°C)
Total Nitrogen (mg/l)

Station #66

PARAMETER
Total Chlorophyll (ug/l)
Conductivity (mmhos)
Turbidity (NTU'S)
Temperature (°C)
Total Nitrogen (mg/l)



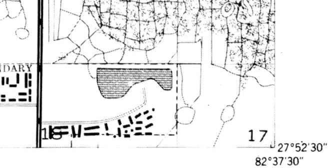
l Legend (Cont'd)

Lat. 27°56'35"   Long. 82°41'38"

SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
32.4	33.7	37.3	27.5	32.7
37050	34704	33150	37533	35609
7.1	6.6	6.3	5.1	6.3
21.7	28.7	24.3	15.4	22.5
0.76	1.15	1.23	0.87	1.00

Lat. 27°55'37"   Long. 82°38'14"

SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
23.5	31.7	34.1	20.3	27.4
37767	35815	33883	38567	36508
5.6	7.2	4.5	3.3	5.2
21.6	29.0	24.4	15.1	22.5
0.67	0.99	0.94	0.69	0.82



range is feet per second

→ 0.01 - 0.10 ft/sec

→ 0.11 - 0.20 ft/sec

→ 0.21 - 0.30 ft/sec

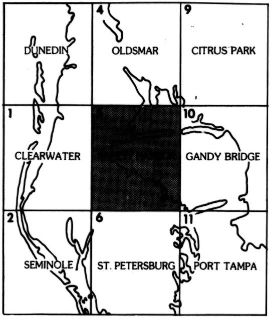
→ 0.31 - 0.50 ft/sec

→ >0.50 ft/sec

FRESHWATER/SALTWATER INTERFACE

(U.S. Geological Survey 1979)
250 mg/l line of equal chloride
concentration in the upper part
of Floridan aquifer.

**Symbols appearing with numbers are described more fully in the narrative*



Note: Specific conductivity values on the supplemental legend should be in μmhos.

Supplemental Legend for Water Quality Stations on This Map

Station #46 Lat. 27°59'22" Long. 82°39'29"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	22.0	31.2	31.6	17.3	25.5
Conductivity (mmhos)	36617	34109	32783	38400	35477
Turbidity (NTU'S)	6.4	8.5	5.2	3.0	5.8
Temperature (°C)	22.0	29.0	24.9	14.7	22.6
Total Nitrogen (mg/l)	0.70	1.03	1.04	0.71	0.87

Station #60 Lat. 27°59'18" Long. 82°38'01"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	21.8	30.7	31.7	16.5	25.2
Conductivity (mmhos)	37042	35474	33700	38767	36246
Turbidity (NTU'S)	5.8	6.3	4.4	3.3	5.0
Temperature (°C)	21.7	29.1	24.2	14.8	22.5
Total Nitrogen (mg/l)	0.71	0.97	1.16	0.59	0.86

Station #64 Lat. 27°58'27" Long. 82°40'42"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	20.7	29.5	31.1	19.9	25.3
Conductivity (mmhos)	36217	33185	32350	38167	34980
Turbidity (NTU'S)	5.7	6.0	5.7	3.2	5.2
Temperature (°C)	21.7	29.8	24.3	14.6	22.6
Total Nitrogen (mg/l)	0.60	0.96	1.15	0.67	0.84

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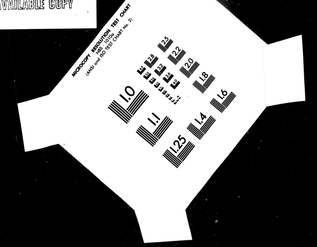
BEST AVAILABLE COPY

MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)

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